and the structure of the chain for a considerable distance to the south and the east must be taken into consideration. That great earth movements had preceded the Carboniferous period, and that mountains of a sort existed during it, and that this period was followed by very acute folding, are certain. We think, however, that the folds in this part of Europe (for reasons which have been published elsewhere) ran approximately from N.N.E. to S.S.W. Evidence of this may indeed be found in the district of which the authors are writing. Such flexures may have been the cause of the frequent trend of outcropping masses along almost the whole of the Alpine chain. During the Triassic period, as has often been observed, highlands, if not mountains, must have existed over more than one large area on the present site of the Alps, which afterwards disappeared beneath a wide-spreading sea. Then came the great Tertiary movements which formed the present chain. The authors apparently treat these as one, but most geologists hold that there were two epochs of maximum disturbance separated by one of comparative rest. The "building" of the present *massif* and the neighbouring mountains should have been treated, we think, in greater detail; for there is more than one interesting problem connected with the courses of the main streams, the positions of watersheds, and the localities chiefly affected by the different movements, which are practically unnoticed. Still the memoir, as a whole, is a very valuable contribution to our knowledge of Alpine geology.

T. G. BONNEY.

THE BERLIN TUBERCULOSIS CONGRESS (1899).[1]

II.

(*Section IV. Therapeutics. Section V. Sanatorium Treatment.*)

THE fact that 2000 doctors met together and discussed for two days the treatment, using this term in its broadest sense, of phthisis will, to the observant layman, be of evil omen. When a number of remedies or methods of cure for one disease are all guaranteed by their advocates as being efficacious, the attitude that one at once adopts is one of scepticism. How many doctors would meet together to discuss the treatment of primary syphilis, a disease which can be cured, and how long would it take them to do so if they did? In a multitude of counsellors there may be wisdom, but in a multitude of treatments there is rarely a cure.

The subject-matter of this Section was very fittingly opened by a paper of Dr. Curschmann's (Leipzig) on the curability of phthisis. In the narrow anatomo-histological sense, phthisis is rarely if ever cured; in the clinical sense, however, we can often accurately speak of a cure as having taken place, since the local signs in the lungs not only become arrested, but a certain amount of repair takes place, and the attacked individual becomes practically normal. The majority of cases of cure, however, are relative. In these cases, the local disease, although not coming to an absolute standstill, is of such a nature as to allow of the general condition of the patient remaining good.

The congress listened with great attention to a paper read by Prof. Kobert, of Rostock, on the medical treatment of tuberculosis. The results formulated by the author were of especial value, since they were not confined to his own clinical experience at Görbersdorf, but were derived from a series of inquiries addressed by him to general practitioners and lung specialists throughout Europe—200 in number. These specialists and practitioners had treated during 1898, the year to which the inquiry related, 50,000 cases of tuberculosis. The most interesting of these results are as follows: (1) that we have in our possession no drug which exerts what may be termed a specific action in tuberculosis; (2) that the early stages of phthisis can sometimes be met and cured without medicine of any kind; (3) in acute cases of phthisis, the fatal termination is neither avoided nor appreciably hindered by any kind of medicinal treatment; (4) that in the majority of cases of consumption medicinal treatment along with hygienic treatment is of the greatest possible use in allaying and easing cough, keeping up nutrition, and exerting a controlling action on the tubercle bacillus and its products. Dr. Brieger (Berlin) read a paper upon the treatment of pulmonary tuberculosis by means of tuberculine and allied methods. The author regarded Koch's tuberculine as of distinct value in cases of pure pulmonary tuberculosis, asserting that in several cases an active tuberculous process had by its means been brought to a standstill.

A valuable communication upon the climatic treatment of phthisis was made by Sir Hermann Weber; but since this was reported at length in the *British Medical Journal*, no further mention will be made of it here. A paper of great interest was read by Dr. Dettweiler (Falkenstein), the subject being the hygienic, dietetic and sanatorium treatment of phthisis. Dr. Dettweiler, being the chief physician to one of the largest private sanatoria in Germany, spoke upon this subject out of the fulness of his experience. The author, after emphasising the fact that in phthisis we had to deal, not with a local condition, but a symptom complex, considered in how special a manner a sanatorium could meet the individual requirements of each case, and that by this means alone —viz., meeting every special want or symptom of the patient as it arose—could we hope to be successful in our treatment. It was not from open air, baths, exercise, alcohol, or feeding that we were to expect a "cure," but from the co-operation each day, according to the state of the patient, of all these means. Prof. Winternitz (Vienna) discussed the hydrotherapy of phthisis, and was followed on this subject by Dr. Carl Schütze. Dr. Hölscher (Mülheim) read an interesting paper on the treatment of phthisis by guiacol carbonate and creosotal. The author, after giving a short *résumé* of the results of the continued use of guiacol, emphasised the fact that this method must be used in conjunction with forced feeding, especially in so far as concerns proteids. The guiacol is eliminated in combination with sulphur, and the sulphur thus used can only result from the breaking down of proteid material; hence the importance of the strength of the patient being maintained by a plentiful supply of proteid material in the food. Dr. Cervello (Palermo) described his method of treatment, which consists in the inhalation of a formic aldehyde gaseous compound. Prof. Landerer gave the results he had obtained by the injection of cinamic acid (Zimmtsäure $C_6H_5—CH=CH—CO_2H$). This substance, according to Prof. Landerer, acts by causing an increased leucocytosis, especially in the regions affected by the tubercular process. The action of many other antiseptics in tuberculosis was also considered, including iodoform and glycerine (Dr. R. Hammerschlag) and Izal (Dr. Tunnicliffe), a few preliminary observations with the latter drug tending to show that it acted, as would be expected from its composition, similarly to guiacol and creosote.

The serum treatment of tuberculosis was discussed by Prof. Maragliano (Genoa). This investigator's interesting researches in this field have already attracted considerable attention. The author, after having postulated from his own and Behring's researches the existence of tuberculous antitoxines and their presence in the blood of normal animals and man, stated that the quantity of these could be increased by injection. The injection of such antitoxines rendered animals partially or entirely immune to injections of tuberculous material, and lessened in man the reaction to tuberculine (Koch?). He further

[1] Concluded from p. 109.

affirmed that these "tuberculous antitoxines" had no poisonous action. Prof. Maragliano concluded by considering the harmful influence of pregnancy upon phthisis, and recommended it, when occurring in a phthisical person, to be terminated artificially. Many other interesting papers, for which we cannot find room here, were read in this section.

Section V.—Sanatorium Treatment.—Since this tuberculosis congress was the first of its kind, it is difficult, if not incorrect, to speak of any part of it as being a novel feature, but the relative newness of the sanatorium treatment of consumption rendered this Section the most interesting one of the whole congress. As these notes are intended for lay as well as professional readers, perhaps it would not be waste of time and space to discuss what is meant by the sanatorium treatment. It seems to the writer that all that is meant by sanatorium treatment is the placing of patients suffering from phthisis in its different stages in an institution or house where they can be constantly watched by skilled doctors, and where every appliance for rest and exercise and amusement in pure and dry open air, forced feeding ("ubernährung"), and hydrotherapy exist. So much has been said about open-air treatment, Nordrach treatment, and so on, that the more general one's remarks are here the better. If a personal name is to be attached to sanatorium treatment it ought to be that of Brehmer, whose book still remains the classic and, indeed, to all intents and purposes the only book upon the subject. If it is wished to label this treatment with the name of a place, it ought to be called the Görbersdorf treatment, for there in Upper Silesia Brehmer founded his institution, and there it thrives to-day. It must always be remembered that open air is, although an important part, only a part of the whole, insistance upon the food question, and proper and suitable medicines, including alcohol, and above all, the adaptation of all these means to the daily and even hourly fluctuations of the patient, are essential factors in the sanatorium treatment.

The subject matter of the Section was introduced by a paper of Prof. Leyden's, who sketched the development of the sanatorium question. Herr Schmieden (Berlin) read a paper upon the building and arrangement of sanatoria. Dr. Schultzer (Berlin) discussed the arrangement, management and results of sanatorium treatment. The author reckoned the cost of a sanatorium for 120 beds at 3*s.* per diem per patient. He pointed out that the results obtainable from treatment could be greatly improved by the construction of intermediate sanatoria, to which patients almost cured could go and get occupation while being still, to some extent, under treatment. Dr. Edward Kaurin gave an interesting account of the sanatoria for tuberculous patients in Norway. The largest sanatorium is situated on the sea coast, and apparently great attention is paid to diet, for each patient consumes more than two quarts of milk per diem, and about three ounces of butter, in addition to his ordinary meals. The cost per head is 1·20 kronen. Prof. Ewald treated the subject of sanatoria for children. Dr. Rufenacht Walters read a paper on the hygienic dietetic treatment of phthisis in Great Britain. The author emphasised the fact that open-air treatment, combined with increased diet, had long been practised in this country with success. He described shortly the hospitals, convalescent homes, &c., where this treatment had been followed. He pointed out the importance of the modern movement in this country for systematising the struggle against tuberculosis, and concluded with a few pregnant remarks concerning climate in the treatment of tuberculosis, and the necessity for improving the general mode of life of tuberculous patients. Dr. Sinclair Coghill made a communication upon the treatment of phthisis, in which he described the National Hospital for Consumption at Ventnor and the methods practised there.

Many other papers followed in this Section, giving the results at sanatoria situated in the most varied regions, and also discussing the difficulties to be met with and overcome in each country in impressing the hygienic treatment of tuberculosis upon the populace in general. National prejudice and customs, to some extent, perhaps, masked in robust health by the voluntary control of the individual, come very obviously to the surface in disease. The German, disciplined from the cradle to the grave, finds it much less hard to submit to the strict *régime* of the sanatorium than the Englishman, in whose eyes, perhaps, the advantages of individual liberty are somewhat over-estimated.

In these notes, filled with the business of the congress, no space is available even to enumerate its pleasures; suffice it to say that the congressists found ample recreation provided for them by the respective authorities in the evening, and returned refreshed by it to their somewhat depressing subject-matter in the morning.

F. W. TUNNICLIFFE.

NOTES.

THE award of the sixth De Morgan medal was made by the Council of the London Mathematical Society on Thursday last, June 8. The medallist is Prof. W. Burnside, F.R.S., and the ground of his selection was for his researches in mathematics, particularly in the theory of groups of finite order.

THE death is announced of Dr. L. A. Charpentier, Professor and Fellow of the Faculty of Medicine, Paris, and member of the Academy of Medicine.

THE German Imperial School for the study of tropical diseases, the establishment of which is due to the suggestion of Prof. Koch, is to be settled at Hamburg.

MR. W. MARTINDALE has been elected president of the Pharmacutical Society of Great Britain.

MR. STANDEN, Government Quinologist, Madras, has been deputed to visit Java to study the system of planting cinchona and manufacturing quinine there, and will therefore be absent for some months. It is proposed by the Madras Government to considerably extend the cinchona plantations on the Nilgiris, and a large area has recently been cleared close to the Pykara Falls.

MR. H. J. MACKINDER, reader in geography at the University of Oxford, has just left England in charge of an expedition, the object of which is to make a thorough study of Mount Kenia, in British East Africa.

AS already announced, the autumn meeting of the Iron and Steel Institute will be held at Manchester on August 15-18. The preliminary programme shows that numerous visits to engineering and other industrial establishments have been arranged. Receptions will be given by the Lord Mayor of Manchester and the Mayor of Salford. A detailed programme will be issued when the local arrangements are further advanced. This programme will contain a list of the papers that are expected to be read.

THE Société helvétique des Sciences naturelles will meet at Neuchâtel on July 31–August 2. On the first day, discourses will be delivered by the president, Prof. Maurice de Tribolet, Prof. Roux, Dr. C. E. Guillaume, and Dr. L. Wehrli. On the following day, the various sections will meet, and on August 2 there will be discourses by Prof. Schröter, Dr. Morin, and Prof. R. de Girard. A number of excursions have been arranged, and there is every promise of the meeting being a successful one. The secretary is Prof. Dr. Henri Rivier, Neuchâtel, Vieux-Châtel 11.